

REMARKS

(1) Claims 1-5 and 7-14 are pending in this application, of which claims 1-3 have been amended. No new claims have been added.

(2) The amendment of claims is supported by the original specification as follows: The original specification describes “0.1 or less Si (e.g., original claim 1).” As one embodiment, Test Materials 21 and 25-27 at page 20 included 0.02 wt% or less Si. Thus, the recitation of “0.02% or less Si” is supported by the original description.

The original specification describes “2.0% or less Mn (e.g., original claim 1).” As one embodiment, Test Materials 19 and 26 at page 20 included 0.85wt% of Mn, and Test Material 23 included 0.03wt% or less Mn. Thus, the recitation of “0.85% or less Mn” is supported by the original description.

The original specification describes “0.01% or less N (e.g., original claim 1).” As one embodiment, Test Material 21 at page 20 included 0.003wt% of N. Thus, the recitation of “0.003% or less N” is supported by the original description.

Amended claim 1 has also incorporated the recitations of original claim 6.

(3) Claims 1-5, 7 and 9-12 were rejected under 35 U.S.C. §102(b) as being anticipated by European Patent 530725 (Kato et al.).

Prior art available under 35 U.S.C. 102 is available under 35 U.S.C. 103. MPEP 2141.01,

I. Subject matter that is prior art under 35 U.S.C. 102 can be used to support a rejection under section 103. *Ex parte Andresen*, 212 USPQ 100, 102 (Bd. Pat. App. & Inter. 1981). *Id.* The substantive content of the prior art must be enabling. MPEP 2141.01, II. "In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether a reference contains an 'enabling disclosure'... ." *In re Hoeksema*, 399 F.2d 269, 158 USPQ 596 (CCPA 1968). The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation. *Elan Pharm., Inc. v. Mayo Found. For Med. Educ. & Research*, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003).

Amended claims 1-3 recites "0.85% or less Mn." Although Kato et al. broadly teach "not more than 2% Mn" at page 2, line 42, the examples disclosed by Kato et al. only include 1.60 to 1.65 wt% Mn. See Tables 1 and 2 of Kato et al. One skilled in the art knows that the properties of alloy often vary even with a small difference in the alloy compositions. Kato's disclosure of "not more than 2% Mn," does not anticipate the scope of amended claims 1-3. The broad teaching by Kato et al. does not provide an enabling disclosure of the whole range of "not

more than 2% Mn.” Kato’s disclosure is without basis; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation. *Elan Pharm., Inc. v. Mayo Found. For Med. Educ. & Research*, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003).

Furthermore, claim 1 recites “0.02% or less Si” and “0.003% or less N.” As a result, the hardening caused by working distortion or welding heat distortion, which would cause the stress corrosion cracking, can be restrained. On the other hand, a problem in which a predetermined strength level is insufficient by decreasing the content of N can be solved by balancing the contents of Si and Mn.

In addition, claim 1 has incorporated the recitation of claim 6. Amended claim 1 is not anticipated by Kato et al. Withdrawal of the rejection is respectfully requested.

(4) Claims 1-6, 9 and 10 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,563,728 to Allio et al. Item 9 of the Office Action. Claims 1-14 were rejected under 35 U.S.C. §103(a) as being unpatentable over EP 789089 (Yonezawa et al.) in view of U.S. Patent No. 3,563,728 (Allio et al.). Item 15 of the Office Action.

(i) Amended Claim 1

Amended claim 1 recites “0.02% or less Si,” “0.85% or less Mn,” and “stacking fault energy (SFE) calculated by the following equation (1): $SFE(mJ/m^2) = 25.7+6.2xNi+410xC-0.9xCr-77xN-13xSi-1.2xMn \dots (1)$ is 100 (mJ/m²) or higher.”

The Office Action does not provide any *prima facie* evidence that the samples disclosed by the references meet the claimed equation (1). For example, the samples of Allio and the samples A1, A2, A3, B1, B2 and B3 of Yonezawa do not meet the claimed “stacking fault energy (SFE)” calculated by the claimed equation (1) in the Office Action. Thus, the invention recited in amended claim 1 is distinguishable from Allio and Yonezawa.

Compared with the features of Allio and Yonezawa, the invention of claim 1 can achieve the following advantageous effects: The austenitic stainless steel of claim 1 has 100 (mJ/m²) or higher SFE, such that the intergranular stress corrosion crack propagation velocity under high-temperature and pressure water can be decreased more significantly. Such austenitic stainless steel contains “0.02% or less Si” and “0.003% or less N” in percent by weight. As a result, the hardening caused by working distortion or welding heat distortion, which would cause the stress corrosion cracking, can be restrained. On the other hand, a problem in which a predetermined strength level is insufficient by decreasing the content of N is solved by balancing the contents of “0.02% or less Si” and “0.85% or less Mn.” These advantageous effects of the claimed invention are unpredictable from Allio and/or Yonezawa.

Therefore, the invention of amended claim 1 is not obvious over Allio and Yonezawa.

(ii) Amended Claims 2 & 3

Amended claims 2 and 3 recite “0.02% or less Si,” “0.85% or less Mn,” “0.003% or less N,” “0.001% or less Ca,” and “0.001% or less Mg.”

Neither Allio nor Yonezawa discloses any sample of austenitic stainless steel containing “0.02% or less Si,” “0.85% or less Mn,” “0.003% or less N,” “0.001% or less Ca,” and “0.001% or less Mg” in percent by weight. Furthermore, Allio and Yonezawa do not disclose the contents of “Ca” and “Mg.” It is unpredictable whether or not Allio and Yonezawa define “Ca” and “Mg.” It is not obvious for one skilled in the art to reach the claimed contents of “Ca” and “Mg” based on the teachings by Allio and Yonezawa. Therefore, the invention recited in amended claims 2 and 3 differs from the features of Allio and Yonezawa.

Compared with the features of Allio and Yonezawa, the invention recited in amended claims 2 and 3 achieves the following advantageous effects: The austenitic stainless steels of claims 2 and 3 contain “0.02% or less Si” and “0.003% or less N” in percent by weight. As a result, the hardening caused by working distortion or welding heat distortion, which would cause the stress corrosion cracking, can be restrained. On the other hand, a problem in which a

predetermined strength level is insufficient by decreasing the content of N is solved by balancing the contents of “0.02% or less Si” and “0.85% or less Mn”.

Furthermore, the austenitic stainless steels of claims 2 and 3 contain “0.001% or less Ca” and “0.001% or less Mg.” As a result, the intergranular stress corrosion cracking is made less liable to propagate.

These advantageous effects obtained in the invention recited in amended claims 2 and 3 are not predictable from the teachings by Allio and Yonezawa. There is no reasonable expectation of success for one skilled in the art to conceive the claimed features from the teachings by Allio and Yonezawa. Thus, amended claims 2 and 3 are not obvious over Allio and/or Yonezawa.

(5) In view of the aforementioned amendments and accompanying remarks, Applicants submit that the claims, as herein amended, are in condition for allowance. Applicants request such action at an early date. If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact Applicants’ undersigned attorney to arrange for an interview to expedite the disposition of this case.

Application No. 10/585,885
Art Unit: 1733

Amendment under 37 C.F.R. §1.111
Attorney Docket No. 062771

If this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,
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Attachment: Petition for Extension of Time